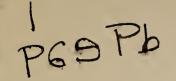
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.





United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

B. T. GALLOWAY, Chief of Bureau.

BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The scientific and technical publications of the Bureau of Plant Industry, which was organized July 1, 1901, are issued in a series of bulletins, a list of which follows.

Attention is directed to the fact that "the serial, scientific, and technical publications of the United States Department of Agriculture are not for general distribution. All copies not required for official use are by law turned over to the Superintendent of Documents, who is empowered to sell them at cost." All applications for these bulletins should therefore be made to the Superintendent of Documents, Government Printing Office, Washington, D. C., accompanied by either a postal money order, an express money order, a draft on New York, or by cash. Postage stamps, foreign money, uncertified checks, and defaced or slick coin will not be accepted in payment for publications. No charge is made for postage on documents forwarded to points in the United States, Guam, Hawaii, Philippine Islands, Porto Rico, or to Canada, Cuba, or Mexico. To other countries the regular rate of postage is charged, and remittances must cover such postage.

- No. *1. The Relation of Lime and Magnesia to Plant Growth. 1901. Price, 10
 - *2. Spermatogenesis and Fecundation of Zamia. 1901. Price, 20 cents.

3. Macaroni Wheats. 1901. Price, 20 cents.

- *4. Range Improvement in Arizona. 1901. Price, 10 cents. *†5. Seeds and Plants Imported. Inventory No. 9. 1902. 6. A List of American Varieties of Peppers. 1902. Price, 10 cents.
- *7. The Algerian Durum Wheats. 1902. Price, 15 cents. *†8. A Collection of Fungi Prepared for Distribution. 1902.

*9. The North American Species of Spartina. 1902. Price, 10 cents.

*10. Records of Seed Distribution and Cooperative Experiments with Grasses and Forage Plants. 1902. Price, 10 cents.

*11. Johnson Grass. 1902. Price, 10 cents. *12. Stock Ranges of Northwestern California. 1902. Price, 15 cents.

*13. Experiments in Range Improvement in Central Texas. 1902. Price,

*†14. The Decay of Timber and Methods of Preventing It. 1902.

- *15. Forage Conditions on the Northern Border of the Great Basin. 1902. Price, 15 cents.
- *†16. A Preliminary Study of the Germination of the Spores of Agaricus Campestris and Other Basidiomycetous Fungi. 1902.
- 17. Some Diseases of the Cowpea. 1902. Price, 10 cents. *†18. Observations on the Mosaic Disease of Tobacco. 1902.

*†19. Kentucky Bluegrass Seed. 1902.

20. Manufacture of Semolina and Macaroni. 1902. Price, 15 cents

*†21. List of American Varieties of Vegetables. 1903.

22. Injurious Effects of Premature Pollination. 1902. Price, 10 cents.

*The Department supply of the bulletins marked with a star is exhausted, and copies can not be supplied to collaborators of the Bureau of Plant Industry.

†The supply of the Superintendent of Documents of the bulletins marked with a dagger is is exhausted, and copies can not be furnished.

No. *†23. Berseem: The Great Forage and Soiling Crop of the Nile Valley. 1902.

24. Unfermented Grape Must. 1902. Price, 10 cents. 25. Miscellaneous Papers: I. The Seeds of Rescue Grass and Chess. II. Saragolla Wheat. III. Plant Introduction Notes from South Africa. IV. Congressional Seed and Plant Distribution Circulars, 1902–1903. 1903. Price, 15 cents.

*†26. Spanish Almonds. 1902.

27. Letters on Agriculture in the West Indies, Spain, and the Orient. Price, 15 cents.

*†28. The Mango in Porto Rico. 1903.

29. The Effect of Black-Rot on Turnips. 1903. Price, 15 cents.

*30. Budding the Pecan. 1902. Price, 10 cents.

- 31. Cultivated Forage Crops of the Northwestern States. 1902. Price, 10
- 32. A Disease of the White Ash Caused by Polyporus Fraxinophilus. 1903. Price, 10 cents.

33. North American Species of Leptochloa. 1903. Price, 15 cents.

*34. Silkworm Food Plants. 1903. Price, 15 cents.

35. Recent Foreign Explorations, as Bearing on the Agricultural Development of the Southern States. 1903. Price, 15 cents.

36. The "Bluing" and the "Red-Rot" of the Western Yellow Pine, with Special Reference to the Black Hills Forest Reserve. 1904. Price, 30 cents.

37. Formation of the Spores in the Sporangia of Rhizopus Nigricans and

of Phycomyces Nitens. 1903. Price, 15 cents.

*38. Forage Conditions and Problems in Eastern Washington, Eastern Oregon, Northeastern California, and Northwestern Nevada. Price, 15 cents.

*39. The Propagation of the Easter Lily from Seed. 1903. Price, 10 cents. *40. Cold Storage, with Special Reference to the Pear and Peach. 1903. Price, 15 cents.

*41. The Commercial Grading of Corn. 1903. Price, 10 cents.

*†42. Three New Plant Introductions from Japan. 1903.

43. Japanese Bamboos. 1903. Price, 10 cents.

*†44. The Bitter-Rot of Apples. 1903.

- 45. The Physiological Rôle of Mineral Nutrients in Plants. 1903. Price, 5
- *†46. The Propagation of Tropical Fruit Trees and Other Plants. 1903.

*47. The Description of Wheat Varieties. 1903. Price, 10 cents. 48. The Apple in Cold Storage. 1903. Price, 15 cents.

49. The Culture of the Central American Rubber Tree. 1903. Price, 25

*50. Wild Rice: Its Uses and Propagation. 1903. Price, 10 cents.

51. Miscellaneous Papers: I. The Wilt Disease of Tobacco and Its Control. II. The Work of the Community Demonstration Farm at Terrell, Tex. III.* Fruit Trees Frozen in 1904. IV. The Cultivation of the Australian Wattle. V.* Legal and Customary Weights per Bushel of Seeds. VI. Golden Seal. 1905. Price of complete bulletin, 5 cents; separates, 5 cents each.

*52. Wither-Tip and Other Diseases of Citrus Trees and Fruits Caused by

Colletotrichum Gloeosporioides. 1904. Price, 15 cents.

*53. The Date Palm. 1904. Price, 20 cents. 54. Persian Gulf Dates. 1903. Price, 10 cents.

55. The Dry-Rot of Potatoes Due to Fusarium Oxysporum. 1904. Price,

*56. Nomenclature of the Apple. 1905. Price, 30 cents.

57. Methods Used for Controlling and Reclaiming Sand Dunes. 1904. Price, 10 cents.

58. The Vitality and Germination of Seeds. 1904. Price, 10 cents.

- 59. Pasture, Meadow, and Forage Crops in Nebraska. 1904. Price, 10 cents.
- *60. A Soft Rot of the Calla Lily. 1904. Price, 10 cents.

61. The Avocado in Florida. 1904. Price, 5 cents.

^{*}The Department supply of the bulletins and parts of bulletins (in separate form) marked with a star is exhausted, and eopies can not be furnished to collaborators of the Bureau of Plant Industry. †The supply of the Superintendent of Doeuments of the bulletins marked with a dagger is exhausted, and copies ean not be furnished.

No. 62. Notes on Egyptian Agriculture. 1904. Price, 10 cents.

63. Investigations of Rusts. 1904. Price, 10 cents.

*64: A Method of Destroying or Preventing the Growth of Algæ and Certain Pathogenic Bacteria in Water Supplies. 1904. Price, 5 cents.

65. Reclamation of Cape Cod Sand Dunes. 1904. Price, 10 cents.

*66. Seeds and Plants Imported During the Period from September, 1900, to December, 1903. Inventory No. 10. 1905. Price, 15 cents.

67. Range Investigations in Arizona. 1904. Price, 15 cents.

*68. North American Species of Agrostis. 1905. Price, 10 cents.

69. American Varieties of Lettuce. 1904. Price, 15 cents.

70. The Commercial Status of Durum Wheat. 1904. Price, 10 cents.

*71. Soil Inoculation for Legumes. 1905. Price, 15 cents.

72. Miscellaneous Papers: I. Cultivation of Wheat in Permanent Alfalfa Fields. II. The Salt Water Limits of Wild Rice. III.† Extermination of Johnson Grass. IV.* Inoculation of Soil with Nitrogen-Fixing Bacteria. 1905. Price of complete bulletin, 5 cents; separates, 5 cents each.

73. The Development of Single-Germ Beet Seed. 1905. Price, 10 cents.

- 74. The Prickly Pear and Other Cacti as Food for Stock. 1905. Price, 5
- 75. Range Management in the State of Washington. 1905. Price, 5 cents.
- 76. Copper as an Algicide and Disinfectant in Water Supplies. 1905. Price, 5 cents.
- 77. The Avocado, a Salad Fruit from the Tropics. 1905. Price, 5 cents.

*78. Improving the Quality of Wheat. 1905. Price, 10 cents.

79. The Variability of Wheat Varieties in Resistance to Toxic Salts. 1905. Price, 5 cents.

80. Agricultural Explorations in Algeria. 1905. Price, 10 cents.

81. Evolution of Cellular Structures. 1905. Price, 5 cents.

82. Grass Lands of the South Alaska Coast. 1905. Price, 10 cents.

83. The Vitality of Buried Seeds. 1905. Price, 5 cents. *84. The Seeds of the Bluegrasses. 1905. Price, 5 cents.

*85. The Principles of Mushroom Growing and Mushroom Spawn Making. 1905. Price, 10 cents.

86. Agriculture without Irrigation in the Sahara Desert. 1905. Price, 5 cents.

87. Disease Resistance of Potatoes. 1905. Price, 5 cents.

88. Weevil-Resisting Adaptations of the Cotton Plant. 1906. Price, 10 cents.

89. Wild Medicinal Plants of the United States, 1906. Price, 5 cents. 90. Miscellaneous Papers: I.* The Storage and Germination of Wild Rice Seed. II. The Crown-Gall and Hairy-Root Diseases of the Apple Tree. III.† Peppermint. IV.* The Poisonous Action of Johnson Grass. 1906. Price of complete bulletin, 5 cents; separates, 5 cents

each. 91. Varieties of Tobacco Distributed in 1905-6, with Cultural Directions. 1906. Price, 5 cents.

*92. Date Varieties and Date Culture in Tunis. 1906. Price, 25 cents.

*93. The Control of Apple Bitter-Rot. 1906. Price, 10 cents.

*94. Farm Practice with Forage Crops in Western Oregon and Western Washington. 1906. Price, 10 cents.

95. A New Type of Red Clover. 1906. Price, 10 cents. *96. Tobacco Breeding. 1907. Price, 15 cents.

*97. Seeds and Plants Imported During the Period from December, 1903, to December, 1905. Inventory No. 11. 1907. Price, 30 cents.

98. Soy Bean Varieties. 1907. Price, 15 cents.

*99. A Quick Method for the Determination of Moisture in Grain. 1907. Price, 5 cents.

100. Miscellaneous Papers: I. Cranberry Spraying Experiments in 1905. II.* The Wrapping of Apple Grafts and Its Relation to the Crown-Gall Disease. III. Garlicky Wheat. IV.* Methods of Testing the Burning Quality of Cigar Tobacco. V.* The Drug Known as Pinkroot. VI.*† Orchard Grass. VII. The Effect of Copper upon Water

^{*}The Department supply of the bulletins and parts of bulletins (in separate form) marked with a star is exhausted, and copies can not be furnished to collaborators of the Bureau of Plant Industry. †The supply of the Superintendent of Documents of the bulletins and parts of bulletins (in separate form) marked with a dagger is exhausted, and copies can not be furnished.

No. 100. Miscellaneous Papers—Continued.

Bacteria. VIII. Conditions Affecting Legume Inoculation. 1907. Price of complete bulletin, 25 cents; separates, 5 cents each except No. VIII, which is 10 cents.

101. Contents of and Index to Bulletins Nos. 1 to 100, Inclusive. 1907.

Price, 15 cents.

102. Miscellaneous Papers: I. Summary of Recent Investigations of the Value of Cacti as Stock Food. II. A Successful Dairy Farm. III.* Planning a Cropping System. IV. The Application of Vegetative Propagation to Leguminous Forage Plants. V. The Control of Texas Root-Rot of Cotton. VI.* The History of the Cowpea and Its Introduction into America. VII.* A New Method for the Determination of Nicotine in Tobacco. 1907. Price of complete bulletin, 15 cents; separates, 5 cents each except No. VI, which is 10 cents. *103. Dry Farming in the Great Basin. 1907. Price, 10 cents.

- 104. The Use of Feldspathic Rocks as Fertilizers. 1907. Price, 5 cents.
- 105. The Relation of the Composition of the Leaf to the Burning Qualities of Tobacco. 1907. Price, 10 cents.

*106. Seeds and Plants Imported. Inventory No. 12. 1907. Price, 15 cents. 107. American Root Drugs. 1907. Price, 15 cents.

108. The Cold Storage of Small Fruits. 1907. Price, 15 cents. *109.. American Varieties of Garden Beans. 1907. Price, 25 cents.

110. Cranberry Diseases. 1907. Price, 20 cents.

111. Miscellaneous Papers: I. The Larkspurs as Poisonous Plants. II. The Fibers of Long-Staple Upland Cottons. III. Imported Low-Grade Clover and Alfalfa Seed. IV.* Forage Crops for Hogs in Kansas and Oklahoma. V. The Culture and Uses of Brome-Grass. 1907. Price of complete bulletin, 15 cents; separates, 5 cents each.

112. The Use of Suprarenal Glands in the Physiological Testing of Drug

Plants. 1907. Price, 10 cents.

113. The Comparative Tolerance of Various Plants for the Salts Common in Alkali Šoils. 1907. Price, 5 cents.

*114. Sap-Rot and Other Diseases of the Red Gum. 1907. Price, 15 cents. 115. The Disinfection of Sewage Effluents for the Protection of Public Water Supplies. 1907. Price, 10 cents. *116. The Tuna as Food for Man. 1907. Price, 10 cents.

*117. The Reseeding of Depleted Range and Native Pastures. 1907. Price, 10 cents.

118. Peruvian Alfalfa: A New Long-Season Variety for the Southwest. 1907. Price, 10 cents.

119. The Mulberry and Other Silkworm Food Plants. 1907. Price, 10 cents. 120. The Production of Easter Lily Bulbs in the United States. 1908. Price,

10 cents.

121. Miscellaneous Papers: I. The Supposed Relationship of White Snakeroot to Milksickness, or "Trembles." II. Mountain Laurel, a Poisonous Plant. III. Results of Loco-Weed Investigations in the Field and Laboratory Work on Loco-Weed Investigations. IV. The Sources of Arsenic in Certain Samples of Dried Hops. V. Apple Leaf-Spot Caused by Sphaeropsis Malorum. VI. The Immunity of the Japanese Chestnut to the Bark Disease. 1908. Price of complete bulletin, 15 cents; separates, 5 cents each except No. III, which is 10 cents.

122. Curly-Top, a Disease of Sugar Beets. [In press.]

123. The Decay of Oranges While in Transit from California. 1908. Price, 20.

124. The Prickly Pear as a Farm Crop. 1908. Price, 10 cents.

125. Dry-Land Olive Culture in Northern Africa. 1908. Price, 10 cents.

126. Nomenclature of the Pear. [In press.]

127. The Improvement of Mountain Meadows. 1908. Price, 10 cents. 128. Egyptian Cotton in the Southwestern United States. [In press.]

OFFICE OF EDITOR OF BUREAU,

Washington, D. C., April 20, 1908.

^{*}The Department supply of the bulletins and parts of bulletins (in separate form) marked with a star is exhausted, and copies can not be furnished to collaborators of the Bureau of Plant Industry.